

Name: _____ Hour: _____

Evolution Questions

Darwin's Theory of Natural Selection (page 178)

1. Define and explain the 4 parts of "natural selection." (See Figure 7)

a) Overproduction

– More offspring are produced than can survive (some must die)

b) Inherited Variation

– Offspring have traits that are similar, but not exactly the same, as their parents

c) Struggle to Survive

- It is not easy to stay alive

d) Successful Reproduction

- The species best adapted to its environment is likely to have many surviving offspring

Genetics and Evolution & Changes in Populations (pages 179-181)

2. Where does variation in a species come from?

Differences in genes (via. sexual reproduction and/or mutations)

3. What are 3 examples of things that cause changes in populations? Name and briefly describe each.

a) Hunting: animals with certain traits are more or less likely to live and reproduce

b) Insecticide Resistance: those that survive the pesticide are more likely to live and reproduce

c) Competition for Mates: those preferred by other mates more likely to live and reproduce

Forming a new Species (pages 182-183)

4. What are 3 stages that could lead to speciation? Name and briefly describe each.

a) Separation: part of a species physically separates from the rest of the group

b) Adaptation: those separated individuals adapt to their new environment

c) Division: new group is eventually so different from original group that it is a new species

Change over Time (pages 166-169)

5. How is the fossil record useful to scientists?

It is a timeline, which provides evidence about the order in which species have existed. It also allows scientists to figure out the relationships between extinct and living organisms.

6. Is the fossil Record complete and accurate? Why or why not?

No. The majority of organisms that die don't become fossils, because very specific conditions are required for fossils to form. (See #9 below)

Examining Organisms & Comparing Organisms & Mass Extinction (pages 170-172, 197)

7. Why do scientists think that whale ancestors lived on land?

Whales likely evolved from ancient mammals because whales breathe air, give birth to live young, produce milk. These mammals likely walked on land because whales have tiny hip bones, which would only be needed for walking. These are likely "left over" from their ancient past.

8. What things do scientists look at to determine common ancestry (who is closely related)?

They look for similar traits/features (like bones), and also for similarities in DNA.

Fossils and the Age of Fossils (page 194-195)

9. Describe the most common way fossils are made. (See Figure 1)

Organism dies, gets buried, and then decays, leaving a space. Space gets filled in, which forms a cast.

Minerals may also slowly replace the organism (e.g., petrified wood) - becomes "rockified." ☺ (p. 168)

10. Which type of dating (relative or absolute) is more accurate? Explain why.

Absolute dating is more accurate because it helps you determine the actual (approximate) age of something. Relative dating only lets you determine if something is older or younger than something else.